List of Tables

List of Figures

List of Appendices

1.0 INTRODUCTION

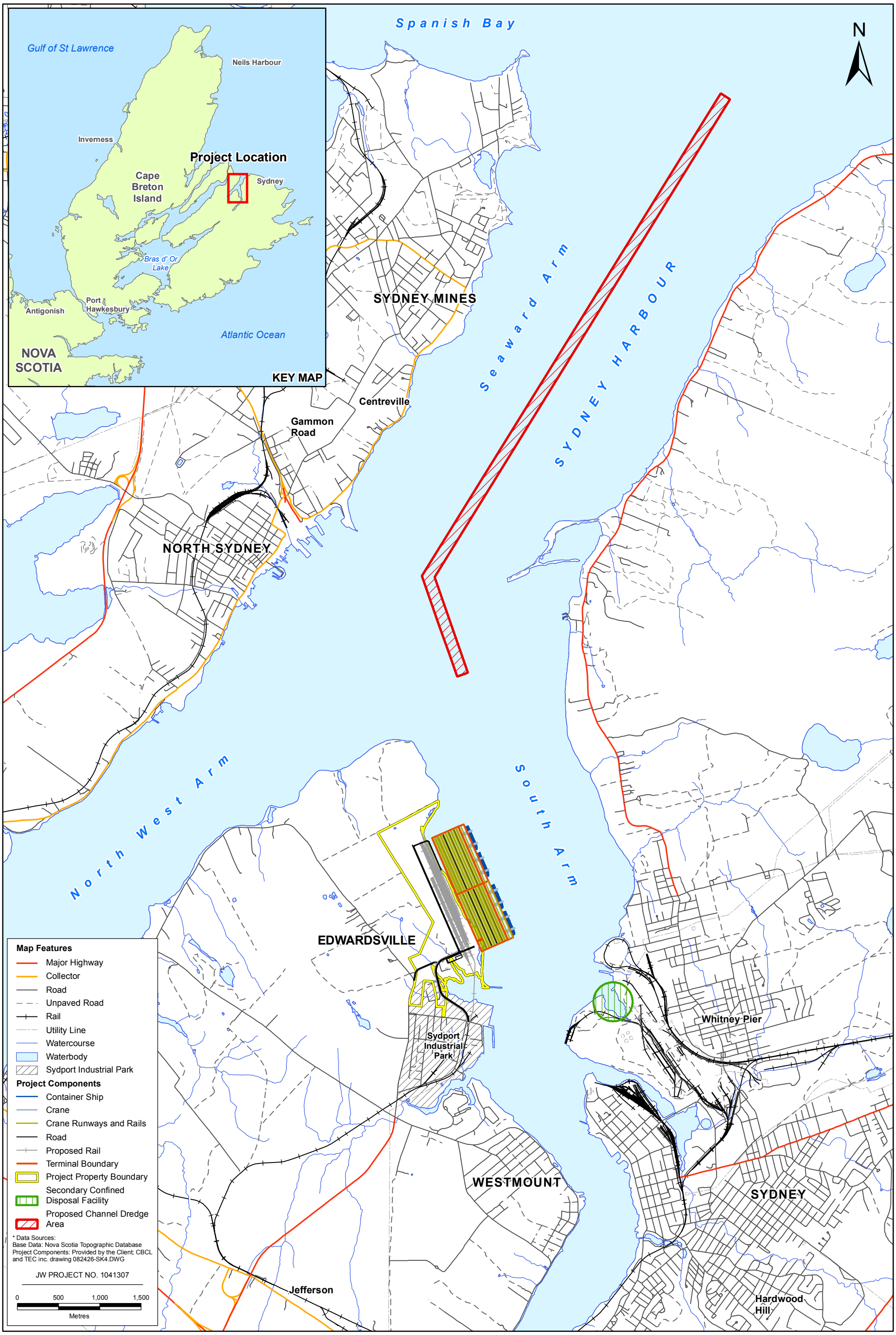
Laurentian Energy Corporation (LEC) is proposing to dredge a navigation channel in Sydney Harbour, and construct and operate (own) a marine container terminal facility in the Sydport Industrial Park, located in the Cape Breton Regional Municipality, Nova Scotia (the Project) (Figure 1.1). The Project requires federal and provincial environmental approvals including federal and provincial environmental assessments (EA). This report provides the basis for an Environmental Screening under the *Canadian Environmental Assessment Act (CEAA)* and satisfies the requirements for a Class I Registration under the Environmental Assessment Regulations of the Nova Scotia *Environment Act.*

This EA Report describes and evaluates the potential environmental and socio-economic effects of the Project during all Project phases. The evaluation will include proposed mitigative measures, where required, to eliminate or reduce adverse environmental effects arising from Project-related activities. The report is based on information collected during field surveys, modelling, and consultation with government and non-government organizations, public consultation, and background research.

1.1 Background

The proposed marine terminal will be located in the Sydport Industrial Park (SIP) near Edwardsville, Cape Breton County, Nova Scotia. The SIP was originally constructed during World War II as a naval base. There were 22 vessels stationed at the Point Edward Naval Base throughout the war supported by approximately 3,000 personnel. Sydney Harbour was a primary convoy staging area, and the Base that supported allied shipping operations for the duration of the European campaign. Following the decommissioning of the Base in 1969, the facility was transformed into what came to be known as the SIP, operated by the Federal Government through the Cape Breton Development Corporation (Devco). In addition to the approximate 101 ha of developed property, the SIP also included a 182 ha parcel of undeveloped land with over 3 km of direct frontage on Sydney Harbour running in a northerly direction to Point Edward.

LEC purchased the SIP in 1999 and continues to own the property. The land is zoned Sydport/Sysco Industrial Park (SIP) Zone which is consistent with the proposed Project. The existing developed area includes a marine wharf consisting of a main jetty, an inner quay and an outer quay that comprise 1,274 m of berthing space. Currently, the SIP supports 40 businesses (*e.g.,* trucking, steel fabrication) and employs approximately 500 full time personnel. It is equipped with conventional amenities (*e.g.,* power, potable water and sanitary sewer) plus direct access to rail and highway infrastructure (the CBNS Railway and Sydney Bypass Highway 125 respectively). Land use in the immediate proximity of the proposed Project site is predominately industrial and commercial; approximately 70 residential dwellings are situated 1 km away along Point Edward Highway.



DATE: 31/10/2008	Sydney Harbour Access Channel Deepening and the Proposed Sydport Container Terminal	FIGURE NO: **Figure 1.1**
PREPARED BY: L. Kendell	**Project Location**	
LAURENTIAN ENERGY		Jacques Whitford

Located in Cabot Strait on the northeast shore of Cape Breton Island, Sydney harbour is the first mainland North America port of call for vessels transiting the North Atlantic via the Suez Canal. It is an active year round port supporting 2,500 jobs and generating $60 million in annual tax revenue. It is currently the fourth largest (cargo handled) port in Atlantic Canada with an average of 175 vessel calls from 2005 to 2007 (excluding Marine Atlantic ferry arrivals and departures at North Sydney). The Ports of Sydney (Sydney Port and North Sydney, hereafter collectively referred to as the 'Ports') handle passengers and a diversity of waterborne cargoes. The Marine Atlantic daily ferry service between North Sydney and Port aux Basque NL and the 45 cruise ship calls to the Sydney Marine Terminal account for tens of thousands of passengers annually. The International Coal Terminal handles approximately 50 Panamax bulk carrier calls per year; a similar number of tankers carrying refined petroleum products discharge cargo at the Sydney Marine Terminal into the nearby Imperial Oil tank farm. Various facilities handle miscellaneous break-bulk, and project cargoes. The Ports receive a wide variety of government vessel calls each year. In general, the Ports' business is conducted in well sheltered marine facilities with ample deep water, wharves, storage areas and rail and road connections.

1.2 Project Overview

Construction of the proposed marine container terminal facility will likely occur in two phases. Phase I will involve:

- dredging the channel that provides access to the South Arm to approximately 17 m below normal low tide (BNLT);
- constructing a confined disposal facility (CDF) extending from the shore of the Sydport site that will serve as the marine footprint for the new terminal;
- potential construction of a smaller secondary CDF for excess dredge spoil east of the proposed terminal;
- dredging at the proposed terminal berth line to approximately 16.5 m BNLT;
- rail extensions and access roads;
- infilling of approximately 72 ha with the dredge spoils;
- bridge crossing of Barachois Creek with improvements to existing rail lines;
- completion of a two berth, 800 m long section of wharf within the new terminal footprint including construction of container storage facilities and an on-dock Intermodal Container Transfer Facility (ICTF); and
- minor extension of the existing Sydport rail spur (connected to the Sydney-Truro rail line).

The throughput capacity for Phase I will be approximately 750,000 twenty foot equivalent unit (TEU's) per year. As Phase I nears its operating limits, the intention is to complete a second Phase (Phase II) and double terminal capacity by completing an additional two berths and 750-800 m of marginal wharf.

1.3 Identification of the Proponent

Name of Project:	Sydney Harbour Access Channel Deepening and the Proposed Sydport Container Terminal, Sydney, Nova Scotia
Proponent Information:	Laurentian Energy Corporation 10 Marine Drive Edwardsville, Nova Scotia B2A 4S6 Phone: (902) 564-1005
Project Contacts	Mr. Jim Wooder Phone: (902) 564-1055 Fax: (902) 564-5684 jwooder@laurentiangroup.ca
Consultant Information:	Jacques Whitford Limited 3 Spectacle Lake Drive Dartmouth, NS B3B 1W8 Robert Federico, Project Manager Phone: (902) 468-7777 ext. 468-7208 Fax: (902) 468-9009 robert.federico@jacqueswhitford.com

1.4 Project Purpose

The land and harbour conditions in Sydney are ideal for new terminal development and Sydney is well positioned to capture new cargo opportunities. The large order book of container ships in the 8,500 TEU container capacity and above range means that increasingly large vessels will be deployed on the developing Suez to North American services, positioning Sydney as the first deep water mainland port of call. The existing excellent rail connectivity provides strong competitive advantage for transferring cargoes to the U.S. Midwest and moving coal from potential recovered reserves in the region. For example, while the Sydport Terminal is not planned to handle bulk material such as coal, the associated channel access dredging is critical to attracting business to the Ports such as exports from the proposed development of the Donkin mine (up to 5 million tons of coal per year).

The Cape Breton Regional Municipality contains 110,000 residents or 12% of the total provincial population, making it the largest urban area outside of Halifax. Skilled labour is readily available, and combined with existing port and other community infrastructure, municipal water, municipal wastewater and electrical utility, plus an abundance of waterside land, the conditions are ideal for major port expansion.

1.5 Regulatory and Planning Context

This EA is a screening level assessment (and not a comprehensive study) under *CEAA* since the site is located in the Sydport/SYSCO Industrial Parks (SIP) Zone, with all types of transportation listed as acceptable land uses in this zone. In addition, zoning for the area was subject to public consultation in accordance with the Cape Breton Regional Municipality Municipal Planning Strategy and Land Use By-law. See Section 4.13 for further information on land use planning for the Project area.

The Project is subject to environmental assessment under both federal and provincial legislation. Federal environmental assessment is regulated under *CEAA* and Regulations. The Project Description document (LEC 2008), required to initiate the federal Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements (Federal Coordination Regulations) under *CEAA* was submitted to the Canadian Environmental Assessment Agency (CEA Agency) on April 16, 2008. The Federal Coordination Regulations process identifies the federal departments that are the Responsible Authorities (RAs) with decision making responsibility under *CEAA* along with departments having relevant expertise (Expert Departments). *CEAA* triggers for this Project are related to the following federal approvals on the *CEAA* Law List Regulations: Section 35 (1) authorization under the federal *Fisheries Act* related to Harmful Alteration, Disruption or Destruction (HADD) of Fish Habitat*;* the *Navigable Waters Protection Act;* transfer of a federal waterlot lease from Transport Canada; and federal funding or the use of the rail line from Sydney Junction to the entrance of the Sydport Park would be a land trigger for Enterprise Cape Breton Corporation (ECBC). Fisheries and Oceans Canada (DFO),Transport Canada and ECBC were identified as RAs. Environment Canada, the Canada Border Service Agency, and Health Canada were identified as Expert Departments. The CEA Agency was identified as the Federal Environmental Assessment Coordinator (FEAC) due to the multi-jurisdictional (*i.e.,* federal and provincial) nature of the assessment.

The draft Scoping Document proposing the scope of the environmental assessment was submitted to the RAs and Expert Departments for comment on May 9, 2008. Based on comments received from the RAs and Expert Departments, a revised scope of the assessment was submitted on August 27, 2008 and no further comments have been received.

Environmental assessment (EA) in Nova Scotia is regulated under the province's *Environment Act* and Environmental Assessment Regulations. Disruption of 2 ha or more of any wetland triggers the provincial environmental assessment process as a Class I Undertaking. In September 2008, the proposed location of the terminal footprint was moved to the south based on new geotechnical information. This design revision requires alteration of over 2 ha of a wetland and thus provincial EA registration. The governments of Canada and Nova Scotia will work together to coordinate their respective EA processes (*e.g.,* to ensure that only one EA document is required to satisfy both processes).

Approvals under Part V of the *Environment Act* such as Water Approvals for wetland alterations and watercourse crossings will also be required. Requirements for other government approvals (*e.g.,* municipal permits) will be determined. In general, LEC will take the necessary steps to ensure that all requisite permits, licenses and authorizations are secured from authorities having jurisdiction at the appropriate stage in the proposed development.

A draft EA report was submitted for review to federal and provincial regulators in December 2008. Comments from provincial and federal regulators were received in January of 2009 and February 2009 respectively. All comments were reviewed and updates were made to the EA report where appropriate. Comments and responses can be found in the disposition table in Appendix K.

2.0 PROJECT DESCRIPTION

The Project will involve channel and berth dredging to accommodate Post-Panamax size container vessels (8,500 – 12,500 TEU container capacity), infilling of approximately 72 ha of land and construction and operation of a marine container terminal and on dock Intermodal Container Transfer Facility on the Sydport site (refer to Figure 2.1). Construction of the proposed marine container terminal facility will occur in two phases: Phase I will consist of two berths (a total length of 800 m) capable of handling approximately 750,000 TEU's per year; as required, Phase II will involve the construction of two additional berths doubling the handling capacity. CDF berms associated with Phase II will be constructed initially with dredge materials placed within it. Topside infrastructure, cranes, pavement, *etc.,* will be developed once the commercial conditions warrant. The container terminal will be used to import and export containerized goods by rail and transshipment**.** It is anticipated that few, if any, trucks will carry cargo to or from the terminal. Bulk commodities such as coal are not planned to be handled by this facility.

Deepening the channel leading to South Arm will not only provide opportunities for the Project container terminal, but for future development and expansion opportunities of the Ports of Sydney for other proponents. However, other projects potentially enabled by the channel deepening are not included in this assessment given the uncertain nature of how and when other developments may proceed. Currently, coal is imported into the Port for electrical production. Bulk carriers are presently not fully loaded due to restricted draft. Deepening the channel should presumably increase efficiency of the transportation of coal.

Sydport Project activities include:

- converting two waterlots to confined disposal facilities (CDF): one extending from the shore of the Sydport undeveloped site which will serve as the terminal foundation, and one potentially on the adjacent side of South Arm which will serve as a disposal area for dredge materials that are deemed unsuitable for the terminal container yard area;
- dredging 142 ha of the channel that provides access to South Arm to approximately 17.0 m BNLT;
- dredging the proposed terminal berth line to approximately 16.5 m;
- infilling the terminal CDF with dredge materials to create approximately 72 ha of new land;
- constructing two berths along 800 m section of wharf within the new terminal footprint;
- constructing container storage facilities;
- constructing an on dock Intermodal Container Transfer Facility on approximately 42 ha of the Sydport Site;
- infilling a portion of Barachois Creek to construct a rail bridge which will provide access to Sydport rail spur; and
- extending the existing Sydney-Truro rail line to the terminal.

Assuming "normal" dwell times (*i.e.,* the time that containers are stored at the terminal) and an operational plan for the Container Yard that uses Rubber Tired Gantries (RTGs), the throughput capacity for Phase I will be approximately 750,000 TEU's per year. As Phase I nears its operating limits, the intention to complete a second Phase and double terminal capacity by completing two additional berths with 800 m of marginal wharf. All of the required infilling will be completed as part of Phase I. Some adjustments or additions to the on dock ICTF facility may occur during Phase II.